

Initially, Applicants would like to thank the Examiner for the indication that Claims 3, 6, 11-15, 18, 19, and 21 contain allowable subject matter.

In the Official Action, the Examiner objects to claims 1 and 2 because of the informalities listed in paragraph 3 of the Official Action. In response, claims 1 and 2 have been amended as suggested by the Examiner. Accordingly, it is respectfully requested that the objection to the claims be withdrawn.

In the Official Action, the Examiner rejects claim 1, 9, and 20 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,488,532 to Endress et al. (hereinafter "Endress"). Additionally, the Examiner rejects claims 2, 16, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Endress in view of U.S. Patent No. 3,800,174 to Butterfield et al. (hereinafter "Butterfield"). Furthermore, the Examiner rejects claims 4, 5, and 10 under 35 U.S.C. § 103(a) as being unpatentable over Endress in view of U.S. Patent No. 4,728,840 to Newhouse (hereinafter "Newhouse"). Still further, the Examiner rejects claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Endress in view of U.S. Patent No. 3,629,628 to Rank et al. (hereinafter "Rank"). Lastly, the Examiner rejects claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Endress in view Rank and further in view of U.S. Patent No. 5,980,650 to Belt et al. (hereinafter "Belt").

In response, Applicants respectfully traverse the Examiner's rejections under 35 U.S.C. §§ 102(b) and 103(a) for at least the reasons set forth below.

Turning now to the prior art, Applicants respectfully submit that Endress differs from what is recited in independent claim 1 for at least the following reasons. Endress has separate tubular members (33, 60, and 71) that are arranged proximate to the conducting

bars (35) while claim 1 recites the conducting bar itself having an internal conduit. This construction is advantageous over the construction of Endress, both mechanically and thermally.

Furthermore, although Endress appears to be similar to the present invention in other aspects, it is very different. The rotor in Endress is not a sealed assembly, fluid is free to enter the gap between the rotor and stator. This presents mechanical efficiency losses as rotor speed increases. The system of the present invention, in which fluid enters and is evacuated under pressure is much more efficient, both mechanically and thermally. Furthermore, the preferred brazed design of the present invention is simpler and lighter than the system of Endress because the conduit can be extruded directly into the rotor bars and does not require the fabrication of separate close tubular members. Clearly, the rotor bars having an integral conduit makes for a smaller, lighter and more efficient system than the system of Endress which employs separate tubular members.

With regard to the rejection of claims 1, 9, and 20, under 35 U.S.C. § 102(b), a rotating machine having a plurality of conductive rotor bars, at least one of which having at least one internal conduit, as claimed in independent claim 1, is nowhere disclosed in Endress. Since it has been decided that "anticipation requires the presence in a single prior art reference, disclosure of each and every element of the claimed invention, arranged as in the claim,"<sup>1</sup> independent claim 1 is not anticipated by Endress. Accordingly, independent claim 1 patentably distinguishes over Endress and is allowable. Claims 9 and 20 being dependent

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<sup>1</sup> Lindeman Maschinenfabrik GMBH v. American Hoist and Derrick Company, 730 F.2d 1452, 1458; 221 U.S.P.Q. 481, 485 (Fed. Cir., 1984).

upon claim 1 are thus allowable therewith. Consequently, the Examiner is respectfully requested to withdraw the rejection of claims 1, 9, and 20 under 35 U.S.C. § 102(b).

With regard to the rejections of claims 2, 4, 5, 7, 8, 10, 16, and 17 under 35 U.S.C. § 103(a), since independent claim 1 patentably distinguishes over the prior art and is allowable, claims 2, 4, 5, 7, 8, 10, 16, and 17 are allowable therewith because they depend from an allowable base claim.

In other words, independent claim 1 is not rendered obvious by the cited references because neither the Endress patent, nor the Butterfield patent, nor the Newhouse patent, nor the rank patent, nor the Belt patent, whether taken alone or in combination, teach or suggest a rotating machine having a plurality of conductive rotor bars, at least one of which having at least one internal conduit. Accordingly, claim 1 patentably distinguishes over the prior art and is allowable. Claims 2, 4, 5, 7, 8, 10, 16, and 17, being dependent upon claim 1 are thus allowable therewith. Consequently, the Examiner is respectfully requested to withdraw the rejections of claims 2, 4, 5, 7, 8, 10, 16, and 17 under 35 U.S.C. § 103(a).

Additionally, Applicants respectfully submit that claims 9 and 10 patentably distinguish over the cited references independently of their base claims. The conducting bars of Endress are shown as being uniform in cross-section (rectangular) and therefore could not show the features recited in claim 9. Therefore, Applicants respectfully submit that claims 9 and 10 patentably distinguish over the cited references and are allowable.

Furthermore, Applicants respectfully submit that claim 7 patentably distinguishes over the cited references independently of its base claim. In the Official Action, the Examiner argues that Endress discloses a brazed joint at the juncture between each of the

first and second ends of each of the conductive rotor bars. However, the Examiner indicates in parenthesis that the brazed joint is "die casting." Clearly, brazing and die-casting are very different processes. Brazing being a process to connect components of an assembly while die-casting being a process to fabricate a component. Therefore, Applicants respectfully submit that claim 7 patentably distinguishes over the cited references and is allowable.

Lastly, by way of the present amendment, claim 23 has been amended to correct an error. Claim 23 mistakenly depended from claim 12. Therefore, claim 23 has been amended to change its dependency from claim 12 to claim 22. No new matter has been entered into the disclosure in doing so.

Attached hereto is a marked-up version of the changes made to the application by the current amendment. The attached page is captioned **"Version with Markings to Show Changes Made."**

In view of the above, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,



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Enclosure (Version with Markings to Show Changes Made)

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**The claims have been amended as follows:**

1. (Amended) A rotating machine comprising[:];  
a rotating shaft[:];  
a plurality of conductive rotor bars spaced from the rotating shaft and fixed thereto through at least one intermediate member, at least one of the plurality of conductive rotor bars having at least one first internal conduit; and  
circulation means for establishing a coolant circulation through the first internal conduit.
2. (Amended) The rotating machine of claim 1, wherein the rotating shaft having a first wall defining a second internal conduit extending from an inlet end to an outlet end thereof, the rotating shaft further having first and second coolant holes in the first wall and communicating with the second internal conduit, wherein the coolant is circulated through the first internal conduit from the second internal conduit by way of the first and second coolant holes.
23. (Amended) The method of claim [12] 22, wherein the fluid flow means of the first and second end plates comprises a third and fourth internal conduit, respectively, wherein the method further comprising the steps of:

providing each of the first and second end plates with an access groove disposed in a fluid path of the third and fourth internal conduits, respectively, for facilitating the fabrication of the third and fourth internal conduits; and

sealingly covering each access groove with a cover plate.